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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/781,820

02/20/2004

Akira Asaoka

H64-163097M/MNN

3957

21254

7590

11/20/2006

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EXAMINER

WALSH, RYAN D

ART UNIT

PAPER NUMBER

2852

DATE MAILED: 11/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/781,820	Applicant(s) ASAOKA ET AL.	
	Examiner Ryan D. Walsh	Art Unit 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/20/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 12a (Step Portion), on Page 9, Ln. 1. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, and 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Todome (US Pat. # 6,397,033) in view of Jeran et al. (US Pat. # 5,604,570) and in further view of Kurotaka (US Pat. # 6,078,766).

Regarding claim 1, Todome teaches, "A belt unit of an electrophotographic printing apparatus, comprising: two rollers (Fig. 3, ref. # 22 & 24) for supporting a belt (21) so as to be substantially in parallel with each other; two frames (23R & 23F) for supporting the rollers and attached to opposite ends of one of the rollers respectively so as to be perpendicular to the rollers; two support members (241R & 241F) attached to opposite ends of the other roller so as to be perpendicular to the rollers (Col. 6, Ln. 1-9); two elastic members (242R & 242F) interposed between the two support members (241R & 241F) and the two frames (23R & 23F) respectively." Todome does not teach, "a belt mounting guide provided between the two frames; wherein the belt mounting guide includes a rotating shaft disposed in parallel with the rollers, and an edge portion inclined relative to an axial direction of the rotating shaft." However, Jeran et al. teaches, "a belt mounting guide (Fig. 5, ref. # 17) provided between the two frames (Guides the belt (11) along its rotation)," and Kurotaka teaches, "wherein the belt mounting guide includes a rotating shaft (Fig. 3, ref. # 2) disposed in parallel with the rollers, and an edge portion (5 & 5a) inclined relative to an axial direction of the rotating shaft." It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Todome's invention to include a belt mounting guide provided between the two frames; wherein the belt mounting guide includes a rotating shaft disposed in parallel with the rollers, and an edge portion inclined relative to an axial direction of the rotating shaft.

Regarding claim 2, Todome does not teach, "wherein a step portion is provided at one end of the edge portion of the belt mounting guide and in a position where the

belt travels normally.” However, Kurotaka teaches, “a step portion (Fig. 3, ref. # 5d) is provided at one end of the edge portion of the belt mounting guide and in a position where the belt travels normally (Belt travels along 2).” It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Todome’s invention to include a step portion provided at one end of the edge portion of the belt-mounting guide and in a position where the belt travels normally.

Regarding claims 1 and 2, the ordinary artisan would have been motivated to modify Todome’s invention in a manner described above for at least the purpose of preventing belt shift along the rotational axis of belt member (see Kurotaka Col. 6, Ln. 40).

Regarding claim 3, Todome does not teach, “wherein when the belt is mounted, the belt mounting guide is located to be higher than a frame that forms a slot portion included in an apparatus body in which the belt unit is mounted.” However, Jeran et al. teach, “wherein when the belt is mounted, the belt mounting guide (17) is located to be higher than a frame that forms a slot portion included in an apparatus body in which the belt unit is mounted (Fig. 5, ref. 17 is higher than the frame 41).” It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Todome’s invention to include wherein when the belt is mounted, the belt mounting guide is located to be higher than a frame that forms a slot portion included in an apparatus body in which the belt unit is mounted.

The ordinary artisan would have been motivated to modify Todome’s invention in a manner described above for at least the purpose of providing maximum tension to the

belt in a perpendicular direction, compared to the direction of motion, which reduces wrinkles within the belt.

Regarding claim 5, Todome teaches, "An electrophotographic printing apparatus, comprising: an apparatus body; and a belt unit (20) installed in the apparatus body; wherein the belt unit includes: a belt (21), two rollers (Fig. 3, ref. # 22 & 24) for supporting the belt (21) so as to be substantially in parallel with each other; two frames (23R & 23F) for supporting the rollers and attached to opposite ends of one of the rollers respectively so as to be perpendicular to the rollers; two support members (241R & 241F) attached to opposite ends of the other roller so as to be perpendicular to the rollers (Col. 6, Ln. 1-9); two elastic members (242R & 242F) interposed between the two support members (241R & 241F) and the two frames (23R & 23F) respectively."

Todome does not teach, "a belt mounting guide provided between the two frames; and the belt mounting guide includes a rotating shaft disposed in parallel with the rollers, and an edge portion inclined relative to an axial direction of the rotating shaft." However, Jeran et al. teaches, "a belt mounting guide (Fig. 5, ref. # 17) provided between the two frames (Guides the belt (11) along its rotation)," and Kurotaka teaches, "and the belt mounting guide includes a rotating shaft (Fig. 3, ref. # 2) disposed in parallel with the rollers, and an edge portion (5 & 5a) inclined relative to an axial direction of the rotating shaft." It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Todome's invention to include a belt mounting guide provided between the two frames; and the belt mounting guide includes a rotating shaft

disposed in parallel with the rollers, and an edge portion inclined relative to an axial direction of the rotating shaft.

The ordinary artisan would have been motivated to modify Todome's invention in a manner described above for at least the purpose of preventing belt shift along the rotational axis of belt member (see Kurotaka Col. 6, Ln. 40).

Regarding claim 6, Todome teaches, "wherein the apparatus body includes a frame (Col. 3, Ln. 1-3) that forms a slot portion in which the belt unit is installed." Todome does not teach, "when the belt is mounted, the belt mounting guide is located to be higher than the frame." However, Jeran et al. teaches, "the belt mounting guide is located to be higher than the frame (Fig. 5, ref. # 17 compared to 41)." It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Todome's invention to include the belt mounting guide is located to be higher than the frame.

The ordinary artisan would have been motivated to modify Todome's invention in a manner described above for at least the purpose of providing maximum tension to the belt in a perpendicular direction, compared to the direction of motion, which reduces wrinkles within the belt.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Todome (US Pat. # 6,397,033), Jeran et al. (US Pat. # 5,604,570) and Kurotaka (US Pat. # 6,078,766) as applied to claim 1 above, and further in view of Fujita

et al. (US Pat. # 5,426,485) and in even further view of Ziegelmuller et al. (US Pat. # 5,655,205)."

Regarding claim 4, the combination of Todome, Jeran et al., and Kurotaka do not teach, "wherein the rotating shaft of the belt mounting guide is provided with a blade for cleaning a back surface of the belt." However, "cleaning the back surface of a belt" is routine in the art as shown by Ziegelmuller et al. (See Title & Abstract), and "wherein the rotating shaft of the belt mounting guide is provided with a blade" is also routine in the art as shown by Fujita et al. (See Fig. 4, Col. 6, Ln. 65-68 & Col. 7, Ln. 1-6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Todome, Jeran et al., and Kurotakas' inventions to include wherein the rotating shaft of the belt mounting guide is provided with a blade for cleaning a back surface of the belt.

The ordinary artisan would have been motivated to modify the combination of Todome, Jeran et al., and Kurotakas' inventions in a manner described above for at least the purpose of improving performance of the belt during toner transfer for example, to remove excess debris from the back side of the 'web', improving image quality (See Ziegelmuller et al., Col. 1, Ln. 26-44).

Conclusion

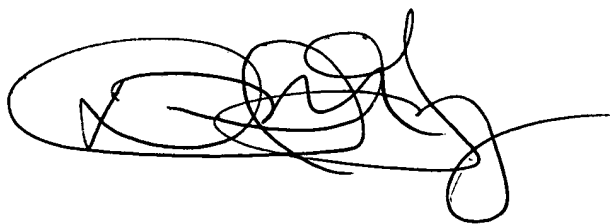
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Castelli et al. (US Pat. # 6,269,231), Silverberg et al. (US Pat. # 4,630,920), and Yamada et al. (US Pat. # 5,666,623).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan D. Walsh whose telephone number is 571-272-2726. The examiner can normally be reached on M-F 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Gray can be reached on 571-272-2119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ryan D. Walsh
Patent Examiner
Art Unit 2852

A handwritten signature in black ink, appearing to be 'Ryan D. Walsh', with a long horizontal line extending to the right.